determining routing solutions to alleviate the problems including changing the routing of one or more demands in accordance with the priority value of the demands; and

implementing the solutions by changing the configuration of network components.

18. (NEW) The method of claim 17 further including identifying congestion on the links using standard statistical methods and a user defined threshold.

19. (NEW) The method of claim 17 further including sequencing actions to be taken while implementing the solution in the network.

20. (NEW) A system for central control and intelligent routing of data network traffic in a digital network, including demands, each demand having a routing through the network and a priority value based on business attributes and criterions, comprising:

a Data Collection engine (220), which collects network data, corrects and fills in missing data, and converts the data to a format for use by a Data Store engine;

an Analysis engine (230), which retrieves a report of a network problem from a Data Store engine (250), formulates the problem as a set of mathematical equations, solves the equations to provide a solution for the set of traffic demands under management in accordance with the priority value of the demands;

a Configuration engine (260) which determines the proper sequence of steps to implement the solution from the Analysis engine and then implements that solution;

a Communication Bus engine (210), which allows communication between the engines;

a Data Store engine (250) which stores the data at least from the Data Collection engine; and

a User Interface engine (240).

21. (NEW) The system of claim 20 further including the Data Collection engine interprets the network data collected and performs statistical transformation to gauge the trend of the current network configuration, detects congestion and identifies a problem and sends a message to invoke the Analysis engine when the problem is identified.

22. (NEW) The system of claim 21 further including the Data Collection engine provides details of the problem, including the status of the current network configuration, the status and routing of the current set of managed traffic demands and any constraints imposed by the users or limitations imposed by the network components.

23. (NEW) The system of claim 20 including the Analysis engine stores the solution in the Data Store.

24. (NEW) The system of claim 23 including the Configuration engine retrieves the solution from the Data Store and compares the solution with the current network configuration before implementing the solution.

25. (NEW) The system of claim 20 including the User Interface engine receives user entered information and sends status and feedback information to the user.

26. (NEW) A network server for providing routing of traffic in a digital network, including demands, each demand having a routing through the network and a priority value based on business attributes and criterions, comprising:

a computer;

the computer capable of being operatively connected to the network;

the computer being capable of receiving data from a plurality of nodes within the network either directly or via other systems;

the computer being capable of recognizing network congestions; and

the computer being capable of formulating at least one solution of the network congestion by rerouting traffic, the solution including the priority value of the demands.

27. (NEW) The server of Claim 26 wherein the computer formulates the solution by minimizing an equation.

28. (NEW) The server of Claim 27 wherein the equation includes:

$$\sum_{uv,i,j} \frac{C_{ij}}{P^{uv}} x_{ij}^{uv}$$

wherein the equation is subject to the constraints comprising:

$$\sum_j x_{ij}^{uv} - \sum_i x_{ik}^{uv} = 0 \qquad \forall k \notin \{u,v\}, \forall (u,v)$$

$$\sum_j x_{uj}^{uv} \leq 1 \qquad \forall (u,v)$$

$$\sum_j T^{uv} * x_{ij}^{uv} \leq B_{ij} \qquad \forall [i,j]$$

$$x_{ij}^{uv} = 0 \text{ or } 1 \qquad \forall (u,v), \forall [i,j]$$

and wherein the variables comprise:

(u,v)	=	demand pair from originating point u to destination point v
[i,j]	=	arc i,j
C_{ij}	=	Cost of arc[i,j]
P^{uv}	=	penalty of demand (u,v)
T^{uv}	=	bandwidth of demand (u,v)
$B_{i,j}$	=	bandwidth available on arc [i,j]
X_{ij}^{uv}	=	variable to be solved.

29. (NEW) The server of Claim 27 wherein the equation is utilizes a priority value of a network demand based on business attributes and criterions.